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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/517,127	03/02/2000	Scott E. Moore	MI22-1246	4844

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WELLS ST. JOHN P.S.  
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SPOKANE, WA 99201

EXAMINER

ELEY, TIMOTHY V

ART UNIT PAPER NUMBER

3724

DATE MAILED: 12/17/2003

28

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/517,127

Applicant(s)

MOORE ET AL.

Examiner

Timothy V Eley

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-- Th MAILING DATE of this communication app ars on th cover sheet with the correspondenc address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-29,31-33,39-65,67 and 130-151 is/are pending in the application.
- 4a) Of the above claim(s) 145-151 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-29,31-33,39-48,58-65,67,133-135 and 141-144 is/are allowed.
- 6) ☒ Claim(s) 1-3,7-11,16-20,22-26,49-51,54-57,130-132,136 and 138-140 is/are rejected.
- 7) ☒ Claim(s) 4,5,12-15,21,52 and 53 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 27.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

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**DETAILED ACTION**

***Election/Restrictions***

1. Newly submitted claims 145-151 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

a. This application contains claims directed to the following patentably distinct species of the claimed invention:

- i. Species I: Semiconductor processor system which includes a sensor and a control system.
- ii. Species II: Semiconductor processor system which includes an interface circuitry and control circuitry.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 145-151 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the

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effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1,2,3,8-11,16-20,22-26,,49-51,55-57,130-132, and 136 are rejected under 35 U.S.C. 102(e) as being anticipated by Robinson et al(6,136,043).

a. Robinson et al disclose a semiconductor processor system comprising: inherently a process chamber adapted to process at least one semiconductor workpiece using a process fluid; a connection coupled with the process chamber and configured to receive a process fluid; a control system coupled with the sensor and configured to control at least one operation of the semiconductor processor system responsive to the signal; and wherein the sensor is configured to monitor turbidity of the process fluid. See column 9, lines 13-23, and lines 45-end; column 10, lines 9-37.

b. Regarding claims 2,3,19,20,23, and 24 inherently the process fluid must be provided in a substantially static state in a sampling system in order to monitor the turbidity of the fluid, and inherently the static process fluid must be compared with a signature(or desired amount of turbidity).

c. Regarding claims 8 and 9, inherently the fluid is extracted from the polishing pad via a drain in order to be supplied to the sensor.

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d. Regarding claim 10, since the turbidity is related to the accumulation of particulate matter within the fluid, the sensor is configured to output a signal indicative thereof.

e. Regarding claim 11, the control system is configured to monitor processing of the semiconductor workpiece within the process chamber.

f. Regarding claim 16, inherently data is stored corresponding to the process fluid since clearly one ordinarily skilled in the art would know that data needs to be stored for turbidity comparisons.

g. Regarding claims 50 and 51, applicant's broad recitation of horizontal and vertical is met since some part of the connection is horizontal and some part of the sensor is vertical.

4. Claims 1,2,3,8-11,16-20,22-26,,49-51,54-57,130-132,136, and 138-140 are rejected under 35 U.S.C. 102(e) as being anticipated by Corlett et al(6,379,538)

a. Corlett et al disclose a semiconductor processor system comprising: inherently a process chamber adapted to process at least one semiconductor workpiece using a process fluid; a connection coupled with the process chamber and configured to receive a process fluid; a control system coupled with the sensor and configured to control at least one operation of the semiconductor processor system responsive to the signal; and wherein the sensor is configured to monitor turbidity of the

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process fluid. See abstract; column 3, lines 4-end; column 4, lines 5-15; and column 7, lines 6-35.

b. Regarding claims 2,3,19,20,23, and 24 inherently the process fluid must be provided in a substantially static state in a sampling system in order to monitor the turbidity of the fluid, and inherently the static process fluid must be compared with a signature(or desired amount of turbidity).

c. Regarding claims 8 and 9, inherently the fluid is extracted from the polishing pad via a drain in order to be supplied to the sensor.

d. Regarding claim 10, since the turbidity is related to the accumulation of particulate matter within the fluid, the sensor is configured to output a signal indicative thereof.

e. Regarding claim 11, the control system is configured to monitor processing of the semiconductor workpiece within the process chamber.

f. Regarding claim 16, inherently data is stored corresponding to the process fluid since clearly one ordinarily skilled in the art would know that data needs to be stored for turbidity comparisons.

g. Regarding claims 50 and 51, applicant's broad recitation of horizontal and vertical is met since some part of the connection is horizontal and some part of the sensor is vertical.

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h. Regarding claim 54, the connection is configured to provide process fluid to the process chamber since some of the removed fluid is return to the chamber(column 4, lines 5-15).

i. Regarding claims 138 and 139, the metering device(the diverter; column 3, line 31) and the recirculation system(column 4, lines 5-15) is taught by Corlett et al.

***Allowable Subject Matter***

4. Claims 4,5,12-15,21,52, and 53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claims 27-29,31-33,39-48,58-65,67,133-135, and 141-144 are allowed.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Corlett et al(6,482,325) discloses turbidity monitoring in a CMP apparatus.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy V Eley whose telephone number is 703-308-1824. The examiner can normally be reached on M-F.

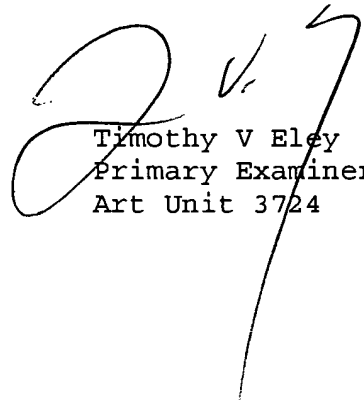
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N Shoap can be reached on 703-308-1082. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.



Timothy V Eley  
Primary Examiner  
Art Unit 3724

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